

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

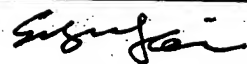
- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

In re Application of: <b>Sigang Qiu et al.</b>	Docket No.: <b>0935</b> RPB REF: <b>CRUS-0156</b>	
Serial Number: <b>09/579,529</b>	Art Unit: <b>2755</b>	
Filing Date: <b>May 26, 2000</b>	Examiner: <b>UNASSIGNED</b>	
Title: <b>RECEIVER CODEC SUPER SET CONSTELLATION GENERATOR</b>		
<b>Declaration for Patent Application and Appointment of Attorney</b>		
<b>DECLARATION OF SOLE OR JOINT INVENTORSHIP</b>		
<p>As a below-named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name; I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention (Design, if applicable) entitled above, the specification of which is either attached hereto, or was filed on the date listed above as with the Application Serial Number listed above (whichever is applicable).</p>		
<b>REVIEWED AND UNDERSTOOD CLAUSE</b>		
<p>I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment(s). I acknowledge the duty to disclose information which is material to the examination of this application in accordance with <i>Title 37, Code of Federal Regulations, § 1.56(a)</i>.</p>		
<b>DOMESTIC PRIORITY CLAIM</b>		
<p>I hereby claim the benefit under <i>Title 35, United States Code, § 120</i> of any United States application(s) or PCT international application(s) designating The United States of America listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in that/those prior application(s) in the manner provided by the first paragraph of <i>Title 35, United States Code, § 112</i>, I acknowledge the duty to disclose material information as defined in <i>Title 37, Code of Federal Regulations, § 1.56(a)</i> which occurred between the filing date of the prior application(s) and the national or PCT international filing date of this application:</p>		
<b>APPLICATION NUMBER</b>	<b>FILING DATE</b>	<b>STATUS (Patented, Pending, Abandoned)</b>
60/140,075	June 24, 1999	PROVISIONAL
UNASSIGNED (CRUS-0156)	June 26, 1999	PROVISIONAL



Declaration for Patent Application and Appointment of Attorney	
<b>WILLFUL FALSE STATEMENTS CLAUSE</b>	
<p>I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine, or imprisonment, or both, under <i>Section 1001 of Title 18 of the United States Code</i>, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.</p>	
<b>CORRESPONDENCE ADDRESS</b>	
Direct all correspondence to: <b>Robert P. Bell</b> Registered Patent Attorney 8033 Washington Road Alexandria, VA 22308	Direct all phone calls to: <b>Robert P. Bell</b> <b>(703) 768-0340</b> FAX: (703) 768-0650
<b>POWER OF ATTORNEY</b>	
<p>I (We) hereby appoint as my (our) attorneys, with full powers of substitution and revocation, to prosecute this application and transact all business in the Patent and Trademark Office connected therewith the following registered Patent Attorneys:</p>	
<b>NAME</b>	<b>REGISTRATION NUMBER</b>
Robert P. Bell	34,546
Robert G. Lev	30,280
Peter Rutkowski	32,627
J.P. Violette	33,042
Dan Shifrin	34,473
Full Name of First or Sole Inventor <b>Sigang Qiu</b>	Citizenship <b>CHINA</b>
Residence Address - Street: <b>8612 Erinsbrook Drive</b>	Post Office Address Street <b>8612 Erinsbrook Drive</b>
City <b>Raleigh</b>	City <b>Raleigh</b>
State or Country      Zip <b>NC                      27613</b>	State or Country      Zip <b>NC                      27613</b>
DATE <b>08/25/2000</b>	SIGNATURE 

Full Name of Second Inventor Vedavalli Gomatam Krishnan	Citizenship USA
Residence Address - Street 7604 Sandy Lake Court	Post Office Address Street 7604 Sandy Lake Court
City Raleigh	City Raleigh
State or Country NC	State or Country NC
Zip 27613	Zip 27613
DATE Aug 25, 2000	SIGNATURE Vedavalli Krishnan

Full Name of Third Inventor Bo Zhang	Citizenship CHINA
Residence Address - Street 3270 Lynn Ridge Drive, #2A	Post Office Address Street 3270 Lynn Ridge Drive, #2A
City Raleigh	City Raleigh
State or Country NC	State or Country NC
Zip 27613	Zip 27613
DATE 08/15/2000	SIGNATURE Bo Zhang

Attorney's Docket No.: 42390P12965

Patent

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re of Application of:

Sigang Qiu et al.

Application No.: 09/579,529

Filing Date: May 26, 2000

For: RECEIVER CODEC SUPER CONSTELLATION  
GENERATOR

Examiner: Not Yet Assigned

Art Group: 2755

Commissioner for Patents  
Washington, D.C. 20231

POWER OF ATTORNEY BY ASSIGNEE  
AND REVOCATION OF PREVIOUS POWERS

Intel Corporation ("assignee"), a Delaware  
(Name of Assignee) (State of Incorporation)

corporation place of business at 2200 Mission College Boulevard, Santa Clara, California 95052,  
(Address)

having a certifies that to the best of assignee's knowledge and belief it is:

[ X ] 1. the assignee of the entire right, title, and interest; or

[ ] 2. an assignee of less than the entire right, title and interest in the patent  
application/patent identified above by virtue of either:

A. [ ] An assignment from the inventor(s) of the patent application/patent identified above. The  
assignment was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame  
\_\_\_\_\_, or for which a copy thereof is attached.

OR

B. [ X ] A chain of title from the inventor(s), of the patent application/patent identified above, to  
the current assignee as shown below:

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail  
with sufficient postage in an envelope addressed to the Assistant Commissioner for Patents, Washington, D.C.  
20231 on October 25, 2001

Date of Deposit

Fran C. Rolfsen

Name of Person Mailing Correspondence

Fran C. Rolfsen  
Signature

10-25-01  
Date

1. From: Sigang Qiu, Vedavalli Gomatam Krishan and Bo Zhang To: Cirrus Logic, Inc. The document was recorded in the United States Patent and Trademark Office at Reel 011115, Frame 0926, or for which a copy thereof is attached.

2. From: Cirrus Logic, Inc. To: Intel Corporation  
The document was recorded in the United States Patent and Trademark Office at Reel \_\_\_\_\_, Frame \_\_\_\_\_, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ X ] Copies of assignments or other documents in the chain of title are attached.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Pursuant to 37 C.F.R. §§ 1.36 and 3.71, the assignee hereby revokes all powers of attorney previously given and appoints William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; Peggy S. Avalos, Reg. No. 42,274; William Thomas Babbitt, Reg. No. 39,591; Carol F. Barry, Reg. No. 41,600; Jordan Michael Becker, Reg. No. 39,602; Todd M. Becker, Reg. No. 43,487; Lisa N. Benado, Reg. No. 39,995; Bradley J. Berezna, Reg. No. 33,474; Michael A. Bernadieu, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Jae-Hee Choi, Reg. No. 45,288; Thomas M. Coester, Reg. No. 39,637; Robert P. Cogan, Reg. No. 25,049; Donna Jo Coningsby, Reg. No. 41,684; Florin Corie, Reg. No. 46,244; Mimi Diemmy Dao, Reg. No. 45,628; Dennis M. deGuzman, Reg. No. 41,702; Stephen M. De Klerk, Reg. No. 46,503; Michael Anthony DeSanctis, Reg. No. 39,957; Daniel M. De Vos, Reg. No. 37,813; Justin M. Dillon, Reg. No. 42,486; Sanjeet Dutta, Reg. No. 46,145; Matthew C. Fagan, Reg. No. 37,542; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; Mark J. Fink, Reg. No. 45,270; George Fountain, Reg. No. 37,374; Andre Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Alan Heimlich, Reg. No. P48,808; James A. Henry, Reg. No. 41,064; Libby H. Ho, Reg. No. 46,774; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W. Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; William W. Kidd, Reg. No. 31,772; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steve Laut, Reg. No. 47,736; George Brian Leavell, Reg. No. 45,436; Samuel S. Lee, Reg. No. 42,791; Gordon R. Lindeen III, Reg. No. 33,192; Jan Carol Little, Reg. No. 41,181; Julio Loza, Reg. No. 47,758; Joseph Lutz, Reg. No. 43,765; Lawrence E. Lycke, Reg. No. 38,540; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Paul A. Mendonsa, Reg. No. 42,879; Clive D. Menezes, Reg. No. 45,493; Richard A. Nakashima, Reg. No. 42,023; Stephen Neal, Reg. No. 47,815; Chun M. Ng, Reg. No. 36,878; Thien T. Nguyen, Reg. No. 43,835; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanezian, Reg. No. 41,236; Kenneth B. Paley, Reg. No. 38,989; Gregg A. Peacock, Reg. No. 45,001; Marina Portnova, Reg. No. 45,750; Michael A. Proksch, Reg. No. 43,021; Randol W. Read, Reg. No. 43,876; William F. Ryann, Reg. No. 44,313; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Jeffrey S. Schubert, Reg. No. 43,098; George Simion, Reg. No. P47,089; Maria McCormack Sobrino, Reg. No. 31,639; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Ronald S. Tamura, Reg. No. 43,179; Edwin H. Taylor, Reg. No. 25,129; Lance A. Termes, Reg. No. 43,184; John F. Travis, Reg. No. 43,203; Kerry P. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Tom Van Zandt, Reg. No. 43,219; Lester J. Vincent, Reg. No. 31,460; Archana B. Vittal, Reg. No. 45,182; Glenn E. Von Tersch, Reg. No. 41,364; John Patrick Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; and Norman Zafman, Reg. No. 26,250; my patent attorneys, and Firasat Ali, Reg. No. 45,715; Charles P. Landrum, Reg. No. 46,855; Suk S. Lee, Reg. No. 47,745; and Raul

Martinez, Reg. No. 46,904, Brent E. Vecchia, Reg. No. P48,011; Lehua Wang, Reg. No. P48,023; my patent agents, of BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800, and James R. Thein, Reg. No. 31,710, my patent attorney with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.

Pursuant to 37 C.F.R. § 3.71, the assignee hereby states that prosecution of the above-referenced patent application is to be conducted to the exclusion of the inventor(s).

Send all future correspondence to Michael A. DeSantcis, Reg. No. 39,957,  
Blakely, Sokoloff, Taylor, & Zafman LLP, 12400 Wilshire Boulevard, Seventh Floor, Los  
Angeles, California 90025, and direct all telephone calls to the same at (303) 740-1980.

Assignee of Interest: Intel Corporation  
(Type or Print)

Dated: Oct. 17, 2001 By: Thomas C. Reynolds

Name: Thomas C. Reynolds  
(Type or Print)

Title: Director of Patents  
(Type or Print)

Address of Assignee of Interest:

2200 Mission Boulevard  
Santa Clara, California 95052

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 10/25/01 By: Michael A. DeSantcis

Name: Michael A. DeSantcis  
(Type)

Reg. No.: 39,957

12400 Wilshire Blvd.  
Seventh Floor  
Los Angeles, California 90025-1026  
(408) 947-8200

## EXHIBIT B

### Assignment of Patent Rights

Whereas, Cirrus Logic, Inc., a Delaware corporation, with an office at 4210 South Industrial Drive, Austin, Texas, 78744 (hereinafter SELLER) is the sole and exclusive owner of certain United States and/or foreign patents and/or patent applications listed in Exhibit A annexed hereto (collectively referred to as the "Patents"); and

Whereas Intel Corporation, a Delaware corporation, with an office at 2200 Mission College Blvd., California 95052, (hereinafter INTEL) is desirous of acquiring the right, title and interest in, to and under the said Patents (and all foreign counterparts and related foreign patents).

*Now, Therefore,*

For good and valuable consideration, the receipt of which is hereby acknowledged, SELLER does hereby sell, assign, transfer and set over to INTEL, the Patents aforesaid, and any inventions claimed in said Patent, any reissue or reissues of said Patents already granted and which may be granted, any certificates of reexamination already granted and which may be granted the same to be held and enjoyed by INTEL for its own use and enjoyment, and for the use and enjoyment of its successors, assigns or other legal representatives, to the end of the term or terms for which said Patents are or may be granted, reissued or extended as fully and entirely as the same would have been held and enjoyed by SELLER, if this assignment and sale had not been made; together with all claims for damages by reason of past infringement of said Patents, with the right to sue for, and collect the same for its own use and behalf, and for the use and behalf of its successors, assigns or other legal representatives.

And, SELLER, hereby authorizes and requests the Commissioner of Patents and Trademarks to issue any and all Letters Patents of the United States on said inventions to INTEL as assignee of the entire interest, and hereby covenants that SELLER has full right to convey the entire interest herein assigned, and that, except as otherwise provided between the parties, SELLER has not executed, and will not execute, any agreements in conflict therewith.



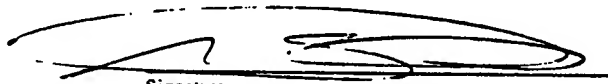
Assignor hereby appoints Assignee its attorney-in-fact to act in Assignor's name, place, and stead to execute, deliver, and record any document or instrument of assignment required in any country in which any of the Patents are pending or issued, granting or confirming the rights granted herein, but only to the extent of those rights granted herein in connection with the Patents.

In Witness Whereof, Seller, by its duly authorized representative, has executed this Assignment.

DATE: 8/22, 2001

By: GREGORY S. THOMAS  
Printed/Typed Name

Title: VP and Associate General Counsel

  
Signature

99

99

**EXHIBIT A**

**Transferred Patents and Patent Applications**

25

Exhibit A

Cirrus Ref. #	Application/Patent #	Country	Invention Title	Status	Outside Counsel
0120-C1	08/454,405/ 5,506,891	US	Method and Apparatus for Detecting the Connection Status of an Extension Phone Connected to a Voice/FAX/Data Modem	Granted	In-house
0134	08/121,615/ 5,533,105	US	Method and Apparatus for Emulating a Telephone with a Modem and Headset	Granted	In-house
0156-P	08/173,761/ 5,524,047	US	Method and Apparatus for Emulating a Telephonic Communications with a Modem and Headset	Granted	In-house
0354-F1	08/938,142/ 5,822,406	US	Switching Circuit for Automatically Routing Audio and Data Signals Between a Modem and Various Devices According to a Selected Mode of Operation	Granted	In-house
0370-D1	09/032,384/ 5,999,597	US	Method and Apparatus for Minimizing System Oscillations Caused by Acoustical Coupling	Granted	In-house
0370-P	08/561,903/ 5,771,278	US	Method and Apparatus for Minimizing System Oscillations Caused by Acoustical Coupling	Granted	In-house
0516	86115260	TW	Device, System and Method for Modem Communication Utilizing Two-Step Mapping	Pending	Lee and Li Ref. 50028-CKL
0516	08/731,500/ 5,926,505	US	Device, System and Method for Modem Communication Utilizing Two-Step Mapping	Granted	In-house
0517	86115259	TW	Device, System and Methods for Modem Communication Utilizing DC or Near-DC Signal Suppression	Published	Lee and Li Ref. 50029-EW
0517-F1	08/731,494	US	Device, System and Methods for Modem Communication Utilizing DC or Near-DC Signal Suppression	Pending	Robert Platt Bell Ref. 10,200,189
0517	08/731,494	US	Device, System and Methods for Modem Communication Utilizing DC or Near-DC Signal Suppression	Pending	Robert Platt Bell Ref. 10,200,189
0519-F1	08/746,356/ 5,943,365	US	Device, System and Methods for Modem Communication Utilizing DC or Near-DC Signal Suppression	Granted	In-house (Originally McDermott, Will & Emery)
0534-F1	08/775,769/ 6,134,265	US	Predicting Coefficient Training in a V.34 Modem	Granted	In-house (Originally McDermott, Will & Emery)
0535	08/940,797	US	Interface Control of Communication Between a Control Processor and a Digital Signal Processor	Pending	Skjerven Morrill MacPherson Franklin & Frief
0536	08/872,788/ 5,943,391	US	Method and Device for a Debugger and Test Data Collector	Granted	In-house (Originally McDermott, Will & Emery)
0537	86120063	TW	Timing Offset Error Extraction Method and Apparatus	Granted	Lee and Li

Cirrus Ref. #	Application/Patent #	Country	Invention Title	Status	Outside Counsel
	NI-103590				Ref: 50683-CPC
0537	08/778,729/ 5,818,872	US	Timing Offset Error Extraction Method and Apparatus	Granted	Robert Platt Bell Ref: CRUS 0086
0538-D3	09/363,085	US	Modem Interface Unit With Power Saving Sleep Mode	Pending	In-house
0538	08/931,785/ 6,138,190	US	Modem Interface Unit With Power Saving Sleep Mode	Granted	In-house
0538-D2	09/206,666/ 6,055,591	US	Modem Interface Unit With Power Saving Sleep Mode	Granted	In-house (Originally McDermott, Will & Emery)
0538-D1	09/206,670/ 6,112,269	US	Modem Interface Unit With Power Saving Sleep Mode	Granted	In-house (Originally McDermott, Will & Emery)
0539	08/864,802/ 6,135,651	US	Patching Device and Method for Upgrading Modem Software Code	Granted	In-house (Originally McDermott, Will & Emery)
0594	98914387.0	EP	Controllerless Modem	Published	Hepworth Lawrence Bryer & Bizley Ref: APE99292
0594	10-541951	JP	Controllerless Modem	Pending	Shusaku Yamamoto Ref: FI-99557E57
0594	87104842	TW	Controllerless Modem	Pending	Lee and Li Ref: 52510-HW
0594	08/832,622	US	Controllerless Modem	Pending	In-house (Originally McDermott, Will & Emery)
0594	US98/06385	WO	Controllerless Modem	Published	In-house
0605	98931719.3	EP	DOS Based Application Supports for a Controllerless Modem	Published	Venmer, Shipley & Co. Ref: 16 34948
0605	133601	IL	DOS Based Application Supports for a Controllerless Modem	Pending	Eitan, Pearl, Latzer & Cohen-Zedek Ref: P2908-IL
0605	505861/99	JP	DOS Based Application Supports for a Controllerless Modem	Pending	(Originally McDermott, Will & Emery)
0605	1999-7011343	KR	DOS Based Application Supports for a Controllerless Modem	Pending	(Originally McDermott, Will & Emery)
0605	08/885,800	US	DOS Based Application Supports for a Controllerless	Granted	In-house

Cirrus Ref. #	Application/Patent #	Country	Invention Title	Status	Outside Counsel
	6,230,118		Modem		(Originally McDermott, Will & Emery)
0605	US98/13517	WO	DOS Based Application Supports for a Controllerless Modem	Published	In-house (Originally McDermott, Will & Emery)
0733	08/885,803/ 6,069,928	US	Scalable Receiver Structure for Efficient Bit Sequence Decoding	Granted	In-house (Originally McDermott, Will & Emery)
0865	09/160,331	US	Code Swapping Techniques for a Modem Implemented on a Digital Signal Processor	Pending	Skjerven Morrill MacPherson Franklin & Frief
0866	09/160,572	US	A Multi-Modem Implementation with Host Based and Digital Signal Processor Based Modem	Pending	In-house (Originally McDermott, Will & Emery)
0868	09/160,577	US	A Modem with a Fast Gain Tracker	Pending	In-house (Originally McDermott, Will & Emery)
0869	09/160,538	US	A Tone Detector for Use With a Modem	Pending	Skjerven Morrill MacPherson Franklin & Frief
0870	09/160,332	US	Modem Using a Digital Signal Processor and a Signal Based Command Set	Pending	In-house
0871	09/160,576	US	Modem Using a Digital Signal Processor and Simplified Execution Code	Pending	In-house
0872	09/160,578	US	Modem Using a DSP and Separate Transmit and Receive Sequences	Pending	In-house (Originally McDermott, Will & Emery)
0873	09/160,571	US	A Modem Using Batch Processing of Samples	Pending	In-house (Originally McDermott, Will & Emery)
0874	09/160,570	US	Modem with Code Execution Adapted to Symbol Rate	Pending	Skjerven Morrill MacPherson Franklin & Frief
0875	09/160,569	US	Integrated Audio and Modem Device	Pending	In-house (Originally McDermott,

Cirrus Ref. #	Application/Patent #	Country	Invention Title	Status	Outside Counsel
0931-L	60/140,075	US	Digital Impairment Learning Sequence	Pending	Will & Emery)
0931	09/592,539	US	Digital Impairment Learning Sequence	Pending	Robert Platt Bell Ref: CRUS-0152
0931	US00/17195	WO	Digital Impairment Learning Sequence	Pending	Robert Platt Bell Ref: CRUS-0192
0932	09/598,934	US	Pad and Codec Detection	Pending	Robert Platt Bell Ref: CRUS-0198
0933	09/598,680	US	Inter-Modulation Distortion Compensation	Pending	Robert Platt Bell Ref: CRUS-0153
0934	09/572,860	US	Constellation Generation and Re-Evaluation	Pending	Robert Platt Bell Ref: CRUS-0154
0935	09/579,529	US	Receiver Codec Super Set Constellation Generator	Pending	Robert Platt Bell Ref: CRUS-0155
					Robert Platt Bell Ref: CRUS-0156